Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-51 (cancelled).

Claim 52. (new) A genetically transformed plant able to produce a lysosomal enzyme of animal or human origin, said plant transformed with the use of an expression vector comprising:

a. a promoter of SEQ ID No. 6 , operably linked to;

b. a DNA sequence encoding a signal sequence of SEQ ID No. 7; and

c. a DNA sequence encoding said lysosomal enzyme lacking its native signal sequence;

wherein said lysosomal enzyme is expressed in seed storage tissues in enzymatically active form and in an amount of at least 0.8% of the seed extracted total proteins.

Claim 53. (new) The plant according to claim 52, wherein the expression vector is a plasmid.

Claim 54. (new) The plant according to claim 52, wherein the DNA sequence encoding the signal sequence is fused in-frame to the sequence encoding the structural portion of the mature lysosomal enzyme lacking its native signal sequence.

Claim 55. (new) The plant according to claim 52, wherein the lysosomal enzyme expressed in enzymatically active form in seed storage tissues is selected from the group consisting of α-N-acetylgalactosaminidase, acid lipase, aryl sulfatase A, aspartylglycosaminidase, ceramidase, α-fucosidase, α-galactosidase A, β-galactosidase, galactosylceramidase, glucocerebrosidase, α-glucosidase, β-glucuronidase, heparin N-

sulfatase, β-hexosaminidase, iduronate sulfatase, α-L-iduronidase, α-mannosidase, β-mannosidase, sialidase, and sphingomyelinase.

Claim 56. (new) The plant according to claim 54, wherein the lysosomal enzyme expressed in enzymatically active form in seed storage tissues is selected from the group consisting of α-N-acetylgalactosaminidase, acid lipase, aryl sulfatase A, aspartylglycosaminidase, ceramidase, α-fucosidase, α-galactosidase A, β-galactosidase, galactosylceramidase, glucocerebrosidase, α-glucosidase, β-glucuronidase, heparin N-sulfatase, β-hexosaminidase, iduronate sulfatase, α-L-iduronidase, α-mannosidase, β-mannosidase, sialidase, and sphingomyelinase.

Claim 57. (new) The plant according to claim 52, wherein said plant is a *Leguminosa*, a cereal, or tobacco.

Claim 58. (new) The plant according to claim 56, wherein said plant is a *Leguminosa*, a cereal, or tobacco.

Claim 59. (new) A method for producing the plant according to claim 52 comprising the following steps:

- constructing an expression vector comprising:
    a. a promoter of SEQ ID No 6;
    b. a DNA sequence encoding the signal sequence of SEQ ID No 7; and
    c. a DNA sequence encoding said lysosomal enzyme deleted of the native signal sequence;
- transforming plant cells with said vector; and
- using said cells to regenerate said transformed plant.

Claim 60. (new) The method according to claim 59, wherein said plant is a *Leguminosa*, a cereal, or tobacco.

Claim 61. (new) A seed of genetically modified plant according to claim 52 wherein:

- said seed contains an expression vector comprising:

a. a promoter of SEQ ID No 6, operably linked to;

b. a DNA sequence encoding the signal sequence of SEQ ID No 7 able to target said lysosomal enzyme to seed storage organs and to provide the post-translational modifications required for the expression of the enzyme in active form; and

c. a DNA sequence encoding said lysosomal enzyme lacking its native signal sequence;

- said enzyme is contained in seed storage tissues in enzymatically active form and in the amount of at least 0.8% of the seed-extracted total proteins.

Claim 62. (new) The seed according to claim 61, wherein the expression vector is a plasmid.

Claim 63. (new) The seed according to claim 61, wherein the DNA sequence encoding the signal sequence is fused in-frame to the sequence encoding the structural portion of the mature lysosomal enzyme lacking its native signal sequence.

Claim 64. (new) The seed according to claim 61, wherein the lysosomal enzyme expressed in enzymatically active form in seed storage tissues is selected from the group consisting of:

α-N-acetylgalactosaminidase, acid lipase, aryl sulfatase A, aspartylglycosaminidase, ceramidase, α-fucosidase, α-galactosidase A, β-galactosidase, galactosylceramidase, glucocerebrosidase, α-glucosidase, β-glucuronidase, heparin N-sulfatase, β-hexosaminidase, iduronate sulfatase, α-L-iduronidase, α-mannosidase, β-mannosidase, sialidase, and sphingomyelinase.

Claim 65. (new) The seed according to claim 63, wherein the lysosomal enzyme expressed in enzymatically active form in seed storage tissues is selected from the group consisting of α-N-acetylgalactosaminidase, acid lipase, aryl sulfatase A, aspartylglycosaminidase, ceramidase, α-fucosidase, α-galactosidase A, β-galactosidase, galactosylceramidase, glucocerebrosidase, α-glucosidase, β-glucuronidase, heparin N-sulfatase, β-hexosaminidase, iduronate sulfatase, α-L-iduronidase, α-mannosidase, β-mannosidase, sialidase, and sphingomyelinase.

Claim 66. (new) The seed according to claim 61, wherein said seed is of a *Leguminosa*, a cereal or tobacco.

Claim 67. (new) The seed according to claim 65, wherein said seed is of a *Leguminosa*, a cereal or tobacco.

Claim 68. (new) A method for producing a seed according to claim 61, comprising the following steps:

- constructing an expression vector comprising:

a. a promoter of SEQ ID No 6;

b. a DNA sequence encoding the signal sequence of SEQ ID No 7 able to dispatch said lysosomal enzyme to seed storage organs and to provide the post-translational modifications required for expression of the enzyme in active form; and

c. a DNA sequence encoding said lysosomal enzyme deleted of the native signal sequence; and

- transforming plant cells with said vector; and- using said cells to regenerate transformed plants able to produce said seeds.

Claim 69. (new) The method according to claim 68, wherein said seed is of a *Leguminosa*, a cereal or tobacco.

Claim 70. (new) A method for extracting and purifying the lysosomal enzyme in active form contained in the seed according to claim 61, comprising the following steps:

a. grinding said seed in liquid nitrogen in the presence of an extraction buffer;

b. centrifuging the resulting solution ;

c. recovering and filtering the supernatant with filters having a porosity suitable to the enzyme dimensions; and

d. further purifying the partially purified enzyme by HPLC chromatography.

Claim 71. (new) A method of use of a seed according to claim 61, comprising the steps of:

a. transforming a plant with an expression vector of claim 61 to yield the genetically modified plant;
b. growing the genetically modified plant;
c. harvesting the seed of the genetically modified plant;
d. purifying the lysosomal enzyme from the seed; and
e. preparing a medicament for enzyme replacement therapy that comprises the purified lysosomal enzyme from step "d".

Claim 72. (new) The method of use according to claim 71 wherein the medicament of step e. is a medicament for an enzyme replacement therapy in Gaucher disease.

Claim 73. (new) The method of use according to claim 71 wherein the medicament of step e. is a medicament for an enzyme replacement therapy in Anderson-Fabry disease.

Claim 74. (new) The method of use according to claim 71 wherein the medicament of step e. is a medicament for an enzyme replacement therapy in Pompe disease.

Claim 75. (new) A method of use of a seed according to claim 61, for the preservation of the lysosomal enzyme in enzymatically active form, produced in said seed, comprising the steps of:

a. transforming a plant with an expression vector of claim 52 to yield the genetically modified plant;

b. growing the genetically modified plant;

c. harvesting the seed of the genetically modified plant;

d. storing the seed of step c.